



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,605	09/20/2000	TOHRU DEN	35.G2647	5370

5514 7590 03/11/2003

FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER

HU, SHOUXIANG

ART UNIT PAPER NUMBER

2811

DATE MAILED: 03/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/666,605

Applicant(s)

DEN ET AL.

Examiner

Shouxiang Hu

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 11,22,23 and 25-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10,12-21,24 and 46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Claims 1-46 are pending in this application, but claims 11, 22, 23, and 25-45 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention according to previous office action. Applicant's request in the 12/20/02 amendment for rejoinder of the withdrawn claims is acknowledged, but it is noted that there has been no **allowable** generic or linking claim at this point. Accordingly, claims 1-10, 12-21, 24 and 46 remain active in this Office action.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 7, 9, 18, 19 and 20, insofar as being supported by the elected species, rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification and drawings (esp., Fig. 7C) fail to adequately disclose what is the other filling material for the pore(s) above the nonconductive region, and what is the purpose or function of that other filling material, in the embodiment of the elected Species I (which has a conductive filling material above the conductive layer)

and/or in the embodiment of Species II (which has a magnetic filling material above the conductive layer).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim 46 is rejected under 35 U.S.C. 102(e) as being anticipated by Wegrowe et al. ("Wegrowe"; 6,172,902).

Wegrowe discloses a structure having pores (Figs. 4 and 5B), comprising: a substrate (20); and a patterned electrically conductive layer (3b); a layer of aluminum oxide (2; see col. 6, lines 8-15) with pores therein; wherein the pores are disposed above the electrically conductive layer and a surface of the substrate where no electrically conductive layer is formed, as the aluminum oxide layer (2) is a pre-prepared porous aluminum oxide membrane layer (see col. 4, lines 14-20) full with densely formed pores (see 3, lines 38-40) and the conductive layer only underlies a portion of

the porous membrane layer; and the surface region of the conductive layer (3b) inherently provides an electrical path between the conductive layer and the bottom of the pores above the conductive layer.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-10, 12-21 and 24, insofar as being in compliance with 35 U.S.C. 112, are rejected under 35 U.S.C. 103(a) as being unpatentable over JP11-200090 (of record) in view of Wegrowe et al. ("Wegrowe"; 6,172,902).

The structure having pores in JP11-200090 (see Figs. 6(a), 7(a) and 7(b)) differs from the claimed structure in the instant invention in that the electrically conductive layer (11) in the structure in JP11-200090 is not patterned. However, one of ordinary skill in the art would readily recognize that the electrically conductive layer needs to be patterned and arranged between non-conductive regions in order to form individual functional components in an integrated circuit, as evidenced in Wegrowe, whose disclosure is discussed as applied to claim 46 above.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the structure of JP11-200090 with the electrically

conductive layer being patterned into individual areas, so that individual functional components in an integrated circuit would be obtained.

Regarding claims 4 and 15, it is noted that one of ordinary skill in the art would readily recognize that the substrate can also be made of a conductive layer underlying an insulating layer (as evidenced in the prior art such as 6,194,255, see col. 3, lines 12-15).

Regarding claims 7, 9, 18, 19 and 20, it is noted that, in view of the above claim rejections under 35 U.S.C. 112, with the method forming the conductive or magnetic filling in both JP11-200090 and Wegrowe, only the pores above the conductive layer would be filled with the conductive or magnetic filling material.

### ***Response to Arguments***

Applicant's arguments filed on 12/20/02 and on 1/2/03 have been fully considered but they are not persuasive.

With respect to applicant's arguments regarding the claim rejections under 35 U.S.C. 112, the first paragraph of 35 U.S.C. 112 requires that the specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention. However, the disclosure of the instant invention and applicant's arguments both fail to provide an adequately description about what is the recited other

Art Unit: 2811

filling material for the pore(s) above the nonconductive region, and what is the purpose or function of that other filling material. Without disclosing the type, the functionality and/or purpose of the other filling material, the disclosure of the instant invention fails to teach how to make and use the instant invention as defined in claims 7, 9, 18, 19 and 20.

Applicant further argues that neither Wegrowe alone nor the combination of JP'090 and Wegrowe teaches the instant invention. In response, the arguments are not found to be persuasive as further explained below. In one embodiment in Wegrowe the membrane layer (2) can be a pre-prepared porous aluminum oxide membrane layer that is full with dense pores. And, the pores in Wegrowe are therefore naturally disposed above the electrically conductive layer and a surface of the substrate where no electrically conductive layer is formed, since considerable portions of the porous membrane layer are not formed above the conductive layer(s) as shown in Fig. 5B and Fig. 1.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

Art Unit: 2811

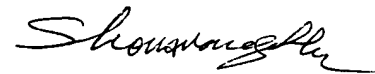
shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is (703) 306-5729. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (703) 308-2772. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

SH  
March 9, 2003

  
Shouxiang Hu  
Patent Examiner  
TC2800